

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (canceled)

2. (canceled)

3. (canceled)

4. (currently amended) A process for the direct one-pot conversion of methane into acetic acid, comprising combining methane with a catalytic system comprising a vanadium complex, a peroxodisulfate salt and trifluoroacetic acid, and reacting methane with the catalytic system in the pot under mild reaction conditions, in the substantial absence of carbon monoxide.

5. (currently amended) The process of claim 4, wherein the vanadium complex comprises vanadium in the +4 or +5 oxidation state with one or more ligands selected from the group consisting of di- and poly-dentate ligands, coordinated by one of nitrogen and oxygen atoms, or ~~oxygen and~~ by oxygen atoms, wherein said ligands are derived from aminoalcohols, (hydroxyimino)dicarboxylic acids, hydroxypyrones, trifluoroacetic acid or triflic acid.

6. (canceled)

7. (canceled)

8. (canceled)

9. (canceled)

10. (new) The process of claim 5, wherein said ligands are derived from acetylacetonate.

11. (new) A process for the direct one-pot conversion of methane into acetic acid, comprising combining methane with a catalytic system comprising a vanadium complex, a peroxodisulfate salt and trifluoroacetic acid, and reacting methane with the catalytic system in the pot under mild reaction conditions, in the presence of carbon monoxide, wherein the vanadium complex comprises vanadium in the +4 or +5 oxidation state with one or more ligands selected from the group consisting of di- and poly-dentate ligands, coordinated by nitrogen and oxygen atoms, or by oxygen atoms, wherein said ligands are derived from aminoalcohols, (hydroxyimino)dicarboxylic acids, hydroxypyrones, trifluoroacetic acid or triflic acid.